

Claims:

1. A support assembly for supporting a S cam, the S cam being an intermediary device between a brake actuator and a set of wheel brakes and is generally an elongate metal shank having an S-head at a first end of the shank and a set of splines at the second end, of the shank, the S-head having at least one arm for engaging a respective brake shoe, whereby rotation of the S cam in a first direction causes the at least one arm of the S-head to act on the brake shoe to frictionally engage the brake shoe with a brake drum, the brake drum being affixed to a wheel, comprising:

a single bushing rotationally supporting the S cam.

2. The support assembly of claim 1, the bushing being substantially coextensive with the S cam shank.

3. The support assembly of claim 1, the bushing extending along the shank from proximate the S-head to proximate the splines.

4. The support assembly of claim 1, the bushing being formed of a plastic material.

5. The support assembly of claim 1, the bushing being substantially enclosed within a bushing holder.

6. The support assembly of claim 5, an outside diameter of the bushing being sized to form a tight fit with an inside diameter of the bushing holder.

7. The support assembly of claim 1, the bushing holder having at least one grease fitting disposed in a bore defined through a bushing holder body for transporting lubricant to the inside margin of the bushing holder.

5 8. The support assembly of claim 7, the grease fitting intersecting a circumferential groove defined in the bushing holder inside margin.

9. The support assembly of claim 8, the circumferential groove intersecting at least one spiral groove defined in the bushing holder inside margin.

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10. The support assembly of claim 9, the circumferential groove and the at least one spiral groove defined in the bushing holder inside diameter forming a path for lubricating the interface defined between the bushing and the bushing holder.

15 11. The support assembly of claim 1, the bushing being substantially sealed within a bushing holder by a first and second seal members disposed at first and second ends of the bushing respectively, each of the seal members forming a sealing interface with the bushing holder and the S cam shank.

20 12. The support assembly of claim 1, the S cam shank outside margin being machined and having a certain outside diameter.

13. The support assembly of claim 11, the S cam shank outside margin being spaced apart from an inside margin of the bushing.

14. The support assembly of claim 12, the S cam shank outside margin being spaced apart  
5 from an inside margin of the bushing by an amount between .001 and .010 inches.

15. A support assembly for supporting a S cam, the S cam having a generally elongate metal rod shank having an S-head at one end the shank and a set of splines at the other end of the shank comprising:

10 a single bushing rotationally supporting the S cam; and  
a bushing holder , the bushing being substantially enclosed within the bushing holder.

16. The support assembly of claim 15, the bushing being substantially coextensive with the S cam shank.

15 17. The support assembly of claim 15, the bushing extending along the S cam shank from proximate the S-head to proximate the splines.

18. The support assembly of claim 15, the bushing being formed of a plastic material.

20 19. The support assembly of claim 15, an outside diameter of the bushing being sized to form a tight fit with an inside diameter of the bushing holder.

20. The support assembly of claim 15, the bushing holder having at least one grease fitting disposed in a bore defined through a bushing holder body for transporting lubricant to the inside margin of the bushing holder.

5 21. The support assembly of claim 20, the grease fitting intersecting a circumferential groove defined in the bushing holder inside margin.

22. The support assembly of claim 21, the circumferential groove intersecting at least one spiral groove defined in the bushing holder inside margin.

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23. The support assembly of claim 22, the circumferential groove and the at least one spiral groove defined in the bushing holder inside diameter forming a path for lubricating the interface defined between the bushing and the bushing holder.

15 24. The support assembly of claim 15, the bushing being substantially sealed within a bushing holder by a first and second seal members disposed at first and second ends of the bushing respectively, each of the seal members forming a sealing interface with the bushing holder and the s cam shank.

20 25. The support assembly of claim 15, the S cam shank outside margin being machined and having a certain outside diameter.

26. The support assembly of claim 25, the S cam shank outside margin being spaced apart from an inside margin of the bushing.

27. The support assembly of claim 26, the S cam shank outside margin being spaced apart  
5 from an inside margin of the bushing by an amount between .001 and .010 inches.

28. A method of supporting a S cam, the S cam being an intermediary device between a brake actuator and a set of wheel brakes and having a generally elongate metal shank having an S-head at one end and a set of splines at the other end, the S-head having at least one arm for  
10 engaging a respective brake shoe, whereby rotation of the S cam in a first direction causes the at least one arm of the S-head to act on the brake shoe to frictionally engage the brake shoe with a brake drum, the brake drum being affixed to a wheel, comprising:  
rotationally supporting the S cam in a single bushing.

15 29. The method of claim 28, including forming the bushing substantially coextensive with the S cam shank.

30. The method of claim 28, including extending the bushing along the shank from proximate the S-head to proximate the splines.

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31. The method of claim 28, including forming the bushing of a plastic material.

32. The method of claim 28, including substantially enclosing the bushing within a bushing holder.

33. The method of claim 31, including sizing an outside diameter of the bushing to form a  
5 tight fit with an inside diameter of the bushing holder.

34. The method of claim 28, including disposing at least one grease fitting in a bore defined through a bushing holder body for transporting lubricant to the inside diameter of the bushing holder.

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35. The method of claim 33, defining a circumferential groove in the bushing holder inside margin and intersecting the grease fitting with the groove.

36. The method of claim 34, including forming at least one spiral groove in the bushing  
15 holder inside margin in an intersecting relationship with the circumferential groove.

37. The method of claim 35, including forming a path for lubricating the interface defined between the bushing and the bushing holder by means of the circumferential groove and the at least one spiral groove defined in the inside margin of the bushing holder.

38. The method of claim 28, including substantially sealing the bushing within a bushing holder by first and second seal members disposed at first and second ends of the bushing respectively.

5 39. The method of claim 28, including forming a sealing interface with the bushing holder and the S cam shank.

40. The method of claim 28, including machining the S cam shank outside margin to define a certain outside diameter.

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41. The method of claim 39, including spacing the S cam shank outside margin apart from an inside margin of the bushing.

42. The method of claim 40, including spacing the S cam shank outside apart from the inside  
15 margin of the bushing by an amount between .001 and .010 inches.